syzygial joint, but after that the syzygies are not repeated, so that there is only one of these peculiar junctions in each arm. . . . And the alternate syzygies in the arms, which form so remarkable a character in *Rhizocrinus*, are absent." He subsequently stated that in *Bathycrinus aldrichianus* "the first and second, and the fourth and fifth brachials are united by syzygies; and after that the syzygies occur sparingly and at irregular intervals along the arms."[1] In like manner Danielssen and Koren[2] described the first two brachials of *Bathycrinus carpenteri* as united by syzygy; a true articulation between the second and third, and also between the third and fourth brachials; while the fourth and the fifth are united by syzygy, the sixth articulated both to the fifth and to the seventh, and the ninth both to the eighth and tenth. After this point muscular articulations and syzygies alternate all along the arms. Owing to the kindness of Dr. Danielssen I have been able to satisfy myself that these "syzygial unions" in the arms of *Bathycrinus carpenteri* are really trifascial articulations like that between the two outer radials of *Bathycrinus aldrichianus*. If, however, this term be substituted for syzygy in the description by Danielssen and Koren, their statements respecting the grouping of the brachials would be perfectly correct, *i.e.*, in the nine lowest brachials there are alternations of a pair of joints united by trifascial articulation and a single joint with muscular articulations at both ends. Beyond the ninth brachial the two forms of articulation alternate with great regularity. Apart from the question of nomenclature, therefore, the Norwegian naturalists were the first who correctly described the grouping of the joints in the arms of *Bathycrinus;* for I find that their description of *Bathycrinus carpenteri* applies both to the little *Bathycrinus gracilis* dredged by the "Porcupine" and to the two Challenger species, *Bathycrinus aldrichianus* (Pl. VII. figs. 1, 2) and *Bathycrinus campbellianus* (Pl. VIII. figs. 1, 3). The non-syzygial nature of the paired unions in the arms of the two last has been determined by actual investigation of the joint faces; while careful microscopic examination of the small individual of *Bathycrinus gracilis* has convinced me that it resembles the other three species in this respect.

The proximal face of the fifth brachial of *Bathycrinus aldrichianus* is shown in Pl. VIIa. fig. 19; and that of a later joint in fig. 20. In both cases the three fossæ are visible around the opening of the central canal; while in Pl. VIIb. fig. 8, the three ligamentous bundles uniting the first and second brachials are seen in section (*li*, *ld*). The same three fossæ (*li'*, *ld'*) appear in Pl. VIIa. fig. 22, which represents a trifascial articular face of *Bathycrinus campbellianus;* while an ordinary muscular joint-face at the proximal end of a brachial is seen in fig. 23.

The presence of this trifascial articulation, and its peculiar grouping, may therefore be considered as distinctive of *Bathycrinus*. Hence the alternation which was referred to by Sir Wyville as so characteristic of *Rhizocrinus* is repeated in *Bathycrinus*, though with two points of difference. In the latter genus the syzygies of *Rhizocrinus* are replaced by

[1] *Journ. Linn. Soc. Lond.* (Zool.), 1876, vol. xiii. p. 50.

[2] *Nyt Mag. f. Naturvidensk.*, Bd. xxiii. pp. 6, 7.